Clinical Computer Information Systems in the United Kingdom

John Anderson B.Sc., M.A., M.D., FRCP, FBCS

INTRODUCTION

During the past decade the National Health Service in the United Kingdom, under the direction of the Department of Health and Social Security, has made a limited investment in the field of medical informatics in relation to patient care and a much larger development, as well as investment, in hospital district and regional care management. Perhaps this was to be expected in that the main thrust by the manufacturers of computers was to transfer software concepts and programs from the business to the health care field, often without much real study of the actual environment in which such systems were to operate. While such operations as far as administration is concerned have been useful to a limited degree, they have encouraged the notion of transfer of software and hardware without a thorough system analysis and design. This has been an unmitigated disaster in relation to the application of medical informatics to the personal and preventive care fields.

Progress has been made in developing relevant clinical information systems useful to the health care team, both in general practice and in hospitals, and this concerns applications for doctors and nurses and paramedical scientists (1). Such limited experiments have provided the basic learning period, during which much research has been done, and a little development of well-investigated areas. Rather less than acceptable was the effort put into research into model systems that might have a new and novel impact on the health care field, the emphasis being largely to automate existing systems and procedures without considering the changing environment in which such systems were to be embedded. Little attention was also paid to the limitations of computer technology but in the first phase of research this is perhaps acceptable, in that it is necessary to promote and facilitate change, for pressures for change will stimulate technological developments. The information and communication revolu-
tion is still gathering impetus in the health care field, as well as in society in general, but it has been slower than the experts have anticipated, largely because of inadequate tools to solve the information storage, retrieval, and analysis problems outside the business field. Lack of a thorough ongoing educational system to bring the uses of such advances to the notice of society in general and also to special areas, such as those involved in the health care fields, was evident. Rather, we have had the expert talking to the expert in a corner, while the rest of society has been wondering what the peculiar discussions would be likely to produce. Perhaps because of this and the saturation of people with reports of instant revolution and breakthrough, we have had our senses blunted to real progress.

There have also been difficulties in relation to funding of projects, for as control and evaluation of the systems are centralized, everyone has to go through some interesting contortions in relation to evaluation, especially the thorny hurdle of cost–benefit analysis in a non-profit-making field. It would be correct to say that the approach of the Department of Health has been rather naive and lacked both definition and thrust. To some extent also they have been caught up in the tide of the disaster of national productivity and their position has not been very secure. On the other hand, some of the difficulties have been of our own making. The special requirements of the different types of recording procedure, data storage, and analysis required in the medical field need a wide range of techniques and this was not appreciated when projects were designed. These requirements were not actually reflected in detailed objectives. Given this, the problems of evaluation with the long lead time, especially for system implementation and development and the problems of user education, which were quietly ignored, combined to make a realization of adequate evaluation formidable. What is now required is a rethink of its utility as now conceived. We cannot claim that evaluation of our motor car industry or in the aerospace field has been any more successful in the recent past, although the investment has been much greater.

There are special problems in relation to health care and medical records that have been known for some considerable time, but only by the few interested in the field. However, the pressure to ignore recording, storage, and communication procedures has brought the multiple uses of the medical record in particular out into the open, and the multiobjective, multitask, and procedure requirements of the documentation system have at last been revealed. Part of the medical record must inevitably be patient-oriented and perform communication and clerical functions predominantly, hoping to guide the progress of care for the health team. Such records act as an aide-mémoire for those who are in the front line of care and undoubtedly improve the thrust of care and act as a communication means between those who must know what was done. Thus in different countries the medicolegal requirements will vary according to the nature of the law and the attitudes adopted by society and the legal system in relation to health care. What has been ignored so far has been the ability of such records to provide a system of evaluating both individual and collective health care. We are still struggling with the traditional importance given to death rounds and mortality data as the main index of care. Unless we change this basic interpretation of care we cannot raise our sights to get on top of the morbidity problem, which is the real medical problem.

What has been difficult to do is to research and develop new medical model